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Preliminary remark

This deliverable presents the main outcome of the PROSO project: **A support tool for promoting engagement of citizens and third sector actors in research and in research and innovation policy.**

For dissemination a screen version and a print version with *professional layout* have been produced. The screen version can be downloaded at: <http://www.proso-project.eu/prososupporttool>.

The version presented here is in Word-format (and without professional layout) because only documents in Word-format can be uploaded and submitted to the Participant Portal.



ENGAGING SOCIETY FOR RESPONSIBLE RESEARCH AND INNOVATION

LOWERING BARRIERS – INNOVATING POLICIES AND PRACTICES

**A support tool for promoting engagement of citizens and third sector
actors in research and in research and innovation policy**



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PREAMBLE: WHAT THIS DOCUMENT OFFERS TO YOU

This document offers information and inspiration to develop policies and practices that encourage the engagement of citizens and third sector actors in publicly-funded research and in research and innovation policy in the European Union. In that sense it is a support tool for putting Responsible Research and Innovation (RRI) into practice.

Its main target groups are policy makers and governmental agencies, research funding organizations and research councils, research organizations, other engagement performing organizations, and third sector actors at national and European Union levels. These actors can make valuable contributions to promoting societal engagement in research and innovation.

Lowering barriers

Each attempt at initiating, organizing or prompting societal engagement occurs in a unique context. This includes a complex web of factors that can prevent, hamper or enable engagement. Also, what makes engagement a success, varies, depending on the specific rationales and goals of engagement in a given case and context.

PROSO has found a number of factors that can negatively affect the willingness of citizens and third sector actors to get involved with research and with research and innovation policy. We refer to these factors as barriers to societal engagement. We have identified six key barriers: lack of relevance; lack of impact; lack of trust and critical views of others; lack of knowledge and skills; lack of time and finances; and lack of legitimacy.

The selection of barriers is a result of PROSO's empirical research mainly into the views of citizens and third sector actors, but also researchers, research funders, and policy makers, of what hinder or encourages societal engagement. Our research was focused on three example research and innovation fields: food and health, nanotechnology, and synthetic biology. This research has allowed us to gain a deeper understanding of a challenge that several engagement exercises over recent years have shown: citizens and third sector actors need to be actively interested and motivated to engage.

Innovating policies and practices

For each barrier this Support Tool presents several policy and practice options. The options are sorted by the types of actor that seem most relevant for taking action, namely policy makers and governmental agencies, research funding organizations and research councils, public and private research organizations and (other) engagement performing organizations, and third sector actors.

ACKNOWLEDGEMENTS

The PROSO team is very grateful to those whose contributions have informed the contents of this document. We owe a considerable debt of gratitude to the interview partners of PROSO's research into the views of third sector actors, researchers and other actors; the citizens participating in PROSO's national citizen panels which were conducted in Bulgaria, Portugal, the United Kingdom, Austria, and Germany; the participants at the multi-actor deliberation conference in Brussels, Belgium; the experts participating in the PROSO workshops on policies of promoting societal engagement under RRI in Vienna, Austria; Sofia, Bulgaria; and Frankfurt am Main, Germany; and last but not least the members of PROSO's advisory panel and PROSO's project officer. We acknowledge with great appreciation that these individuals took their time to commit themselves to our work and provided us with valuable input, feedback, and ideas.¹ Last but not least, we would like to express our special gratitude to the European Commission for financing the PROSO project and for making the whole endeavour possible.

¹ In an updated version of this document and on approval of all concerned the names of the participants in the expert workshops and the multi-actor deliberation conference will be added to the acknowledgement (the citizens participating in the national panels and the interview partners were assured anonymity) (please find this updated version at: <http://www.proso-project.eu/prososupporttool>).

EXECUTIVE SUMMARY

Responsible Research and Innovation – a vision of inclusiveness

In the policy context of the European Union, Responsible Research and Innovation (RRI) calls for the engagement of societal actors in research and innovation. The main benefits expected from this are that research and innovation will be better targeted to societal needs and enriched by social knowledge. Further, engagement can empower those whose views traditionally have not been taken into account in research and innovation.

Engaging society in research – what makes engagement attractive?

Societal engagement in publicly funded research requires conditions that support such engagement. The views of societal actors need to inform supporting policies and activities. What encourages or hinders societal actors to engage with research or with research and innovation policy? How can barriers to engagement be lowered or overcome?

Views of citizens and third sectors actors

The PROSO consortium has investigated the views of *citizens* and *third sector actors* (such as civil society organizations or campaigning groups) on engagement with research-related activities.

Preliminary results of this research were discussed with *practitioners and experts* at workshops and during a European multi-actor deliberation conference.

Central barriers - and options to overcome these

We identified six central barriers to engagement and a range of potential policies and practices to lower or overcome these barriers. The options for action are summarized in the following section, and are sorted by the types of actor that appear most relevant for taking action. Four main groups of actors have been identified: research policy makers and governmental agencies; research funding organizations and research councils; universities, public and private research organizations and (other) engagement performing organizations; and third sector actors. Certainly, the choice of policies to address barriers needs to reflect the respective (e.g. national) situation and context.

Views of citizens

PROSO conducted national citizen panels in five European countries in order to investigate citizens' views of engagement with research-related activities (90 citizens).

Views of third sector actors

PROSO developed 9 case studies that reflect the views of third sector actors and others on the importance and challenges of societal engagement across a range of research and innovation topics (60 interviews).

Practitioner and expert views

The research results of PROSO are informed by the outcomes of three expert workshops and a multi-actor deliberation event in Brussels with around 50 stakeholders from across Europe and beyond including policy makers, research management and funding organizations, science education and communication actors, RRI researchers, and third sector organizations.

>> Create relevance

Citizens and third sector actors may perceive an engagement process as not relevant to their own interests, concerns, and goals.

Policy makers	<ul style="list-style-type: none">• Including citizens and third sector actors in agenda setting processes• Providing funding programmes based around societal challenges or needs• Providing open calls for research
Research funders	<ul style="list-style-type: none">• Providing research calls for engagement of citizens and third sector actors in shaping local/regional environments (such as community-based research and real-world laboratories)• Opening up advisory boards to third sector organizations
Research organizations	<ul style="list-style-type: none">• Establishing or using processes and structures to connect with society on a more continuous basis• Employing scenarios and use cases for engagement about new technologies and research areas• Assuring openness of outcomes in engagement processes• Being transparent about how engagement is connected with the realities of citizens or third sector actors

>> Provide for impact

Citizens and third sector actors may refrain from accepting an invitation for engagement when they expect the process to have little or no impact in terms of political or societal effects.

Policy makers	<ul style="list-style-type: none">• Providing funding for research-based engagement processes the results of which directly feed into policy processes• Providing training and support for public authorities in regard to societal engagement• Establishing transnational infrastructures for exchanges on good impact practices
Research funders	<ul style="list-style-type: none">• Including the requirement to combine online and offline engagement approaches in calls for research involving societal engagement• Providing national-level support in regard to good practice in impact• Funding research on the impact of the engagement of citizens and third sector actors
Research organizations	<ul style="list-style-type: none">• Being transparent about expected impacts during the recruitment phase (e.g. co-shaping policies or prompting dialogue and deliberation in civil society)

>> Build trust and mutual understanding

Citizens and third sector actors may refrain from engagement when they distrust the agendas of sponsor(s) and organizer(s) of the engagement process or have negative views of other participants.

Policy makers	<ul style="list-style-type: none">• Committing to transparency on how future policy decisions relate to engagement results• Supporting research organizations in regard to engagement• Providing funding opportunities for informal encounters and networking among scientists, third sector actors, and other relevant actors• Funding for citizen science
Research funders	<ul style="list-style-type: none">• Funding support staff to sustain engagement between research organizations and third sector actors, citizens, and other research partners during funded research projects
Research organizations	<ul style="list-style-type: none">• Providing full transparency of the engagement process• Using facilitators• Offering training for researchers• Providing opportunities for informal encounters and networking among researchers, citizens, third sector actors, and other relevant actors
Third sector actors	<ul style="list-style-type: none">• Raising awareness and taking advantage of opportunities for encounters and networking

>> Build knowledge and skills

Citizens and third sector actors may refrain from engagement when they fear they lack the necessary knowledge and skills to engage in research or in research and innovation policy.

Policy makers	<ul style="list-style-type: none">• Providing national-level support on engagement (also) for third sector actors• Opening up advisory boards to third sector organizations• Promoting scientific literacy and strengthening science journalism• Embedding engagement more widely in the education system
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Research funders	<ul style="list-style-type: none">• Funding of capacity-building for third sector organizations• Funding of research into mechanisms of inclusion and exclusion in dialogues
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Research organizations	<ul style="list-style-type: none">• Combining dialogue and information in engagement processes• Using attractive stimuli to support dialogue• Strengthening of science journalism
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Third sector actors	<ul style="list-style-type: none">• Raising awareness and taking advantage of capacity-building opportunities
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>> Provide and save resources

Citizens and third sector actors may refrain from engagement when they fear they lack the necessary time and financial resources to engage.

Policy makers	<ul style="list-style-type: none">• Recognizing third sector organizations as eligible actors in research• Considering and developing new models of compensating engagement efforts
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Research funders	<ul style="list-style-type: none">• Funding of co-design and consortium-building for collaborative research projects• Recognizing financial compensation for the efforts of citizens and third sector actors in engagement processes as eligible costs
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Research organizations	<ul style="list-style-type: none">• Working with citizens in their 'natural habitats' (e.g. targeting schools, contacting people in the streets)
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Third sector actors	<ul style="list-style-type: none">• Pooling of resources among third sector actors• Adapting the mission of third sector organizations (include engagement in research or research and innovation policy)
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>> Build legitimacy

Citizens and third sector actors may refrain from engagement when they have doubts about the legitimacy of the engagement process or their own involvement.

Policy makers	<ul style="list-style-type: none">• Committing to societal engagement through national strategies and/or guidelines• Providing awards for outstanding engagement projects and policies• Encouraging research organizations to (visibly) extend their mandate through societal engagement• Encouraging the adaptation of how scientific reputation is measured
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Research funders	<ul style="list-style-type: none">• Joining initiatives for awards in good practice or innovative methods• Providing research calls for multi-actor, multi-level engagement processes
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Research organizations	<ul style="list-style-type: none">• Acknowledging the efforts of citizens and third sector actors in research-related engagement processes• Providing organizational reward and recognition for engagement with society• Inscribing service to the community and/or engagement in the organization's mandate
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Third sector actors	<ul style="list-style-type: none">• Launching and joining initiatives for awards in good practice or innovative methods
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Engaging citizens and third sector actors in research and in research and innovation policy is a long term multi-actor project contributing to Responsible Research and Innovation.

1 WHY SHOULD WE BE CONCERNED WITH RRI?

Research and innovation in contemporary societies

New possibilities

From the internet and smart phones, to products developed from biotechnology, and concepts for a CO₂-neutral energy supply; research and technology, and innovations resulting from these, open up new possibilities for the economy, society, and the individual citizen, and are considered essential for improving modern life.

New challenges

Research and technology also bring new uncertainties, risks, and ethical dilemmas. Innovations can have ambivalent societal impacts. Emerging technologies that are particularly pervasive and implemented at high speed may produce feelings of powerlessness in parts of society. Given this backdrop, research and innovation have the potential to trigger scepticism or opposition, public controversies, and societal conflict.

New questions

In political arenas it is a widespread view that research and innovation are powerful tools to boost economic growth and improve the ways in which we live and work. However, where so-called post-truth political movements and politics are ascendant, anti-scientific tendencies have become apparent. Scepticism towards 'elites' is also directed towards scientists. This raises the question: Will this influence the views of individuals and societal groups on the importance of science and research for future developments?

In light of the above, there is good reason to argue that research and innovation must not be a blind headlong rush but need to be actively shaped in a broad collective effort. This includes the effort to develop shared understandings about the values and goals that we as a society assign to research, technology and innovation. These are the main concerns of "Responsible Research and Innovation".

Research and innovation for society and with society

Let's revise the ways in which we govern research and innovation

"Responsible Research and Innovation" (RRI) is a call and initiative to scrutinize and revisit current policies and practices of governing research and innovation. This initiative has developed from research policy and funding contexts in the United States and the European Union (EU) during the past decade. It has roots, for instance, in earlier visions for collaborations between social and natural scientists that address social, ethical, ecological, and other wider dimensions from the very start of research and innovation initiatives. It also addresses calls for greater engagement of society in research and innovation.

Let's do it collectively

In EU policy and associated discourses, the concept of RRI is that research and innovation need to be actively shaped in a continuous and collective societal effort. Researchers, funders, businesses, policy-makers, third sector organizations, citizens, and others shall reflect and discuss:

- What do we want to achieve from research and innovation?
- What are the most promising approaches to achieving this? What would be the intended and unintended impacts, consequences and implications of each approach, its products, and the respective research for developing these products? What are the advantages and disadvantages in each case? Given the good and bad points: Is it desirable for society, its different groups, and the individual to develop and introduce certain products or services? Under which conditions would it be (un)desirable, and for whom?

Let's embed society in science

The main goal behind RRI is to better align the process of research and innovation and its outcomes with the values, needs, and expectations of society. Admittedly, this is not an easy task. Values, needs and expectations are not always well developed and known, and they usually vary between groups and individuals. For example, many will agree that research and innovation also have other important purposes beyond economic growth and enhanced competitiveness. The EU and member state governments refer to these other purposes as tackling societal grand challenges. These challenges include for instance, demographic change, secure societies, and green transport. However, who decides what the main current and future societal challenges should be? Who decides what new areas of public value for research and innovation should be? With RRI these questions are opened up to societal debate.

Responsible Research and Innovation: More than a slogan

RRI is gaining traction across the EU and the Western World. In a few countries it has already induced, inspired, or confirmed changes in the policies and practices of funding and carrying out research. This is only a start, and we need to be humble in our expectations of the extent to which research and innovation can be shaped in a targeted manner. Power relations, lack of knowledge, and lack of momentum can act as major constraints to this effort. However, with the framework of RRI a window of opportunity has opened to reinforce efforts for shaping research and innovation in a more reflective and systematic manner on an EU-wide level. Further, it has raised awareness of the importance of societal engagement in research and innovation.

WHAT DO WE UNDERSTAND BY RRI?

Our understanding is guided by the European Commission's notion of RRI: Responsible Research and Innovation seeks to better align the process of research and innovation and its outcomes with the values, needs, and expectations of European society. This requires different actors including citizens and third sector actors to work together to collectively reflect on and discuss questions of: What do we want research and innovation to achieve? What are promising paths to achieve these purposes?

2 WHY IS SOCIETAL ENGAGEMENT IMPORTANT FOR RRI?

RRI - a vision of inclusiveness

RRI is not a fixed concept. It is rather a framework which is open to interpretation in response to the context in which it is translated into practice. However, societal engagement is a widely recognized key component of RRI. In the EU policy context, RRI calls for the involvement of societal actors in research and innovation. This includes citizens and third sector actors.

Citizens and third sector actors: two different target groups

Citizens and third sector actors, such as environmental organizations or campaigning networks, are two different target groups of RRI's vision of societal engagement in research and innovation. There are similarities, but also differences in what citizens and third sector actors are asked to contribute and in how their willingness and capability are shaped to make these contributions.

How common is engagement of citizens and third sector actors in research and innovation?

Currently, citizens and third sector actors are not routinely involved in such activities. This distinguishes them from governments, parliaments, businesses, and funding organizations which are normally involved in governing research, with bigger companies and businesses also being related to publicly funded research. Since the turn of the millennium, one can observe the body of practice of societal engagement growing. This holds true, however, only for small parts of Europe and covers only some research and innovation areas, such as nano-technology and synthetic biology.

What does societal engagement mean?

Engagement in publicly funded research and in research and innovation policy

By ‘societal engagement’ we refer in this document to the cases in which citizens and/or third sector actors are invited to interact with other actors around issues and processes related to publicly funded research and/or research and innovation policy. This interaction may take the form of a citizen dialogue, consultations with interest groups, or research collaborations in terms of community-based research with citizens and a variety of third sector actors. Requests for engagement in research often come from or for the public domain, for instance from parliamentary offices of technology assessment, public research organizations, or not-for-profit research enterprises.

WHAT DO WE UNDERSTAND BY CITIZEN ENGAGEMENT?

We speak of citizen engagement when individuals are invited to engage as ‘members of the public’ or ‘ordinary people’. Citizen engagement means that individuals are asked to participate in a personal capacity and not as a member or representative of a particular group or organization.

WHAT DO WE UNDERSTAND BY ENGAGEMENT OF THIRD SECTOR ACTORS?

We speak of engagement of third sector actors when individuals are invited as members or representatives of formal organizations beyond the state and the market (for instance, environmental organizations, patient organizations, or trade unions), or as participants in informal coalitions such as campaigning or community groups, projects, or networks.

Invited dialogue

Importantly, ‘engagement’ goes beyond packaging and posting of research findings, and beyond mere consumption of information, for instance through watching a science television broadcast or listening to a science lecture. Engagement implies that societal actors are asked to make contributions to activities related to research or to research and innovation policy and to enter into exchanges around these contributions. Examples include the collaboration of civil society organizations in research projects or citizen dialogues on future research priorities.

Dealing with engagement as invited two-way-communication must not be misunderstood as a dismissal of self-initiated engagement and of one-way-communication. First, the focus is on invited engagement because it offers a greater number of opportunities to develop policies and practices for lowering barriers to engagement. Some of these policies and practices may, however, also be beneficial to self-initiated and self-organized forms of engagement or benefit from these. One example of such bottom-up engagement is social movements that bring together amateur scientists and professional scientists such as the do-it-yourself biology community. Other examples are patient organizations that aim to have particular diseases added to the public research policy agenda, self-organized citizen initiatives that question new outcomes of research and development such as non-invasive prenatal diagnosis, or non-governmental organizations that press for early and more complex research into the risks associated with new technologies. Bottom-up engagement can stimulate new ideas and approaches for invited engagement and research and innovation policies.

Second, the focus on dialogue corresponds to the vision of RRI that citizens and third sectors actors “work together” with other actors in the research and innovation process. This requires two-way-communication. One-way communication, for instance dissemination of research, helps prepare the way for meaningful dialogue. Information provision is usually an indispensable part of dialogues.

Engagement with what?

Citizens and third sector actors can be involved with research and research and innovation policy in various ways. Essentially, they can engage in:

- Shaping the context conditions of research and innovation via, for instance, national dialogues on how to regulate or manage newly emerging technologies or non-technical innovations.
- Shaping research directions and research agendas and contributing to visions of the future that can help define research needs, priorities, and strategies via, for instance, being members of research programme boards or participating in participatory agenda-setting projects.
- Implementation of research activities, as societal consultants or collaborators, for instance in research projects aimed at taking sustainable development forward.

What is expected from the engagement of citizens and third sector actors?

Among the possible benefits of engagement of citizens and third sector actors, the following three are particularly relevant in terms of Responsible Research and Innovation:

Research and innovation targeted at societal needs

Involving citizens and third sector actors provides access to diverse social knowledge, values and meanings. This helps create research outcomes and innovations that better meet the needs and expectations of society. This, in turn, increases the likelihood that society will accept research and innovation outcomes.

Research and innovation enriched by social knowledge

The knowledge and views of citizens and third sector actors can also enrich research processes. Practical knowledge, experiential insights, organizational perspectives, and personal views are particularly relevant to research on societal challenges that can only be solved with wide societal support, such as sustainable consumption or climate protection.

Empowerment of citizens and third sector actors

Engagement of citizens and third sector actors is also a way of empowering those whose views traditionally have not been taken into account in research and in research and innovation policy. Citizens and third sector actors may be empowered by access to knowledge and co-creation of knowledge that helps them develop an expanded understanding of the nature of societal problems and the ways in which they are affected by these. They may be enabled to act on behalf of their own and others' interests rather than feeling helpless. They may also be enabled by a more profound understanding of the ways in which research and innovation systems work. Further, they may be empowered to have access to networks that work towards topics of common interest in regard to research and innovation.

Science, society, politics, and business can all profit in various ways from societal engagement in research and in research and innovation policy. This is illustrated in the table below.

POTENTIAL BENEFITS OF SOCIETAL ENGAGEMENT IN RESEARCH AND IN RESEARCH AND INNOVATION POLICY – WHAT CAN RESEARCHERS, POLICY MAKERS, BUSINESSES, CITIZENS AND THIRD SECTOR ACTORS GAIN?²	
Possible gains for researchers	Possible gains for policy makers
➤ The research system can identify societal calls for	➤ Policy makers can obtain societal input for

² This table draws on the table from Hightech Forum 2017, p. 5.

<p>new research as well as access to other forms of knowledge.</p> <ul style="list-style-type: none"> ➤ Societal needs can be incorporated at an early stage of scientific inquiry and increase the societal relevance and fit of research. ➤ The legitimacy of research funding can be enhanced. <p>Possible gains for citizens and third sector actors</p> <ul style="list-style-type: none"> ➤ Citizens and third sector actors can introduce concerns and needs to the research system and help shape solutions for societal challenges; so that policies to tackle these challenges reflect a broader range of options. ➤ Citizens and third sector actors can gain from engagement by acquiring new knowledge, skills and relationships relevant to the scientific enquiry and research and innovation policy. ➤ Engagement can help develop a sense of responsibility in society for challenges that can only be tackled if various actors work together. 	<p>research and innovation policy and thereby increase its societal relevance.</p> <ul style="list-style-type: none"> ➤ Engagement can make policy decisions more transparent, comprehensible, and legitimate. ➤ Engagement can improve the implementation and effectiveness of research and innovation policy. <p>Possible gains for businesses</p> <ul style="list-style-type: none"> ➤ Companies can achieve valuable insights into societal needs and bolster the innovative performance of the economy. ➤ Market uptake of research and innovation developments can be increased when more socially relevant and acceptable outcomes are delivered. ➤ Engaging with citizens and third sector actors in research-related activities can help companies to create a positive corporate vision, for instance as part of their corporate social responsibility strategy.
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Where do we stand now?

Societal engagement in research and in research and innovation policy is itself an innovative development which has been ongoing for several decades. In summary:

- Much **progress** has been made: Practitioners have developed a range of methods and approaches such as participatory agenda-setting, community-based research, and civic dialogues. Sharing of these is facilitated through numerous toolkits for societal engagement that are available on the internet.

TOOLKITS FOR SOCIETAL ENGAGEMENT

These are some toolkit-examples developed by EU-funded projects:

[RRI tools](#)

[ENGAGE2020](#)

[PE2020](#)

- However, **challenges** remain. Importantly, there are many scientists, researchers and policy makers who are sceptical of, or even opposed to, the idea of engagement; even in those countries that first pioneered the field of societal engagement in research and innovation. Dissemination and information often prevail over more interactive formats of exchange between science and society. Those organizing interactive engagement processes often have difficulty recruiting sufficient numbers of participants and ensuring the level of diversity desired.
- The way forward is not merely through developing new or improved methods. The key tasks are rather to make more **effective use** of available methods and to **create supportive conditions** for societal engagement by innovating research funding policies and programmes, changing the structure of research organizations, and adapting scientific and educational systems.

How to identify possible ways forward?

A first step to address this question is to consider what we currently know about barriers to societal engagement in research and in research and innovation policy. The next section provides an overview of important barriers. For each barrier a number of possible ways forward are highlighted in terms of concrete policies and practices to lower obstacles and facilitate engagement. This includes references to inspiring examples from existing policies and practices.

Promoting a voluntary and targeted approach

Research and innovation is gaining importance across most, if not all countries, and as such wider societal engagement is desirable in order that developments reflect and address societal needs and concerns. However, citizens and third sector actors need to engage on a voluntary basis, and it must be recognized that research and innovation is one of many areas in which these societal actors can get involved. Effective engagement requires not simply more invitations, but essentially more supportive conditions and incentives.

Furthermore, engagement of citizens and third sector actors is not necessarily the right thing to do in each case. Before initiating engagement, it is vital to carefully reflect on whether and how citizens or third sector actors actually can contribute to a research policy, process or product. In this context there needs to be room for research in new fundamental areas and completely novel application fields. Such research needs to meet scientific and ethical standards but must not be constrained by demands for societal engagement if societal actors such as citizens or third sector actors cannot meaningfully contribute to this type of research.

3 WHAT ARE POTENTIAL SOLUTIONS TO OVERCOME BARRIERS TO SOCIETAL ENGAGEMENT?

Barriers to engagement

Each attempt at initiating, organizing or promoting societal engagement occurs in a unique context. This includes a complex web of factors that can prevent, hamper or enable engagement. Also, what makes engagement a success varies, depending on the specific rationales and goals of engagement in a given case and context.

We have found a number of factors that can negatively affect the willingness of citizens and third sector actors to get involved with societal engagement in research and in research and innovation policy. We refer to these factors as barriers to societal engagement. We have identified six key barriers: lack of relevance; lack of impact; lack of trust and critical views of others; lack of knowledge and skills; lack of time and finances; and lack of legitimacy.

BARRIERS TO ENGAGEMENT		
ICONS	Lack of relevance	Citizens and third sector actors may perceive an engagement process as not relevant to their own interests, concerns, and goals.
	Lack of impact	Citizens and third sector actors may refrain from accepting an invitation for engagement when they expect the process to have little or no impact in terms of policy or societal effects.

	Lack of trust and critical views of others	Citizens and third sector actors may refrain from engagement when they distrust the agendas of sponsor(s) and organizer(s) of the engagement process or have negative views of other participants.
	Lack of knowledge and skills	Citizens and third sector actors may refrain from engagement when they fear they lack the necessary knowledge and skills to engage in research or in research and innovation policy.
	Lack of time and financial resources	Citizens and third sector actors may refrain from engagement when they fear they lack the necessary time and financial resources to engage.
	Lack of legitimacy	Citizens and third sector actors may refrain from engagement when they have doubts about the legitimacy of the engagement process or their own involvement.

Our information base

The selection of barriers is a result of our empirical research mainly into the views of citizens and third sector actors, but also researchers, research funders, and policy makers, of what hinders or encourages societal engagement. This research has allowed us to gain a deeper understanding of a challenge that several engagement exercises over recent years have shown: citizens and third sector actors need to be actively interested and motivated to engage. Our research was focused on three example research and innovation fields: food and health, nanotechnology, and synthetic biology.

Our own data confirm and build upon several findings derived from the present body of knowledge on societal engagement in research and innovation. Our results also add new insights to current knowledge, among other things, in regard to the important role of issues of trust: trust and preconceived ideas of others can act as strong barriers both to the engagement of third sector actors and citizens.

PROSO RESEARCH

PROSO conducted national citizen panels in five European countries in order to investigate citizens' views of engagement with research-related activities (90 citizens). You can find the details of this research here: [Methodology Citizen Panels](#); [Reports National Citizen Panels](#); [Synthesis Report National Citizen Panels](#).

PROSO carried out case studies including actor interviews in order to investigate the views of third sector actors, researchers and other actors of societal engagement in research-related activities (9 cases, 60 interviews with stakeholders). You can find the details of this part of the research here: [Methodology Actor Interviews](#); [Barriers and Incentives in Three Research and Innovation Domains](#); [Synthesis Report Barriers and Incentives](#). Further, PROSO undertook deliberations and consultations with various actors from academia and practice including research funders, and policy makers. The outcomes can be found here: [Expert Workshop Experiences with Societal Engagement](#); [Multi-Actor-Conference New Options for Engaging Society](#); [Expert Workshop Innovating Policies](#).

A comprehensive literature review of societal engagement under the terms of RRI informed the activities set out above. The results are available here: [Results Literature Review Societal Engagement](#).

The six barriers present major challenges to realizing the vision of Responsible Research and Innovation, in which citizens and third sector actors work together with researchers and other actors in a collective effort to

shape research and innovation from its early stages. Single barriers can deter citizens and third sector actors from engagement. Often, several factors will come together, interact, and prevent engagement. The strength or weakness of the individual barrier varies with the particular contextual conditions in a given case. These include the engagement format, the area of research and innovation at issue or the geographic context in which an engagement process is planned. Each barrier is dealt with separately in the following sections. The order in which barriers are presented is not related to their importance.

Policies and practices to address barriers

Targeted policies and practices for addressing the six barriers are required when we want European research to be strengthened through co-operation with citizens and third sector actors. For each barrier we will present several policy and practice options. The options are sorted by the types of actor that seem most relevant for taking action, namely policy makers and governmental agencies, research funding organizations and research councils, public and private research organizations and (other) engagement performing organizations, and third sector organizations. Please note that some actors, as for example foundations, can belong to more than one of these types. Several of the options are not merely ideas but existing policies and practices, used in specific or isolated contexts, or relatively new approaches which are moreover concentrated in a few countries. Examples of existing policies and practices are presented in separate text boxes entitled “Inspiring examples”.³

WHAT DO WE UNDERSTAND BY POLICY AND PRACTICE OPTIONS?

Policy and practice options are measures and activities that create favourable conditions and/or present good practice for engaging citizens and third sector actors in publicly-funded research or research and innovation policy.

It is an open question whether the policies and practices set out below are good choices in a particular situation and context. Which of them will be viewed as more or less effective, efficient or legitimate ways of encouraging societal engagement in research and in research and innovation policy depends on, for example, the national political culture or particularities of the national education, research and innovation systems. However, the presented policies and practices concern transnational barriers rather than those specific to particular countries (even though the strength of the barriers will vary between countries). Therefore, it is worthwhile for governments, funding agencies, engagement performing organizations, and third sector actors throughout the EU to consider them as possible ways of promoting societal engagement.

RELEVANCE

Lack of relevance

Engagement with research and innovation is not usually part of citizens’ day to day lives or the normal business of third sector actors. Therefore, citizens and third sector actors may perceive engagement as not relevant to their own interests, concerns, and goals. This can act as an important barrier.

Remoteness from citizens’ everyday lives

Why should citizens get involved with research or research and innovation policy? For some citizens, curiosity and interest in trying something new may suffice as incentives. Perhaps payment of a (usually small) financial compensation may play a role in accepting an engagement invitation. Many citizens, however, can be reluctant to participate when they have no pre-existing interest in a given issue or concern. This is especially true when they do not see how the issue itself or participating in dealing with it has relevance to their own lives.

³ The boxes provide links to websites for further information. The websites were accessed on 1 February 2018. For most cases the information is provided in English.

Complex, highly technical and specialist issues appear especially remote from citizens' everyday lives. The same is true for topics or issues that refer to an early phase of science and technology development: At this point in time, concrete applications that could trigger citizens' concerns are at best vague. If there is no public debate and media attention is low, citizens' awareness of new research fields or emerging technologies will also be low, as will the level of interest of many in dealing with future hypothetical concerns around these research fields and technologies.

Lack of strategic relevance for third sector actors

Numerous third sector actors do not consider research policy and work as their concern, therefore engagement with research has little or no strategic relevance. Priority-setting is done in relation to the particular mission or agenda of the organizations or groups. If an engagement opportunity does not link with this mission or agenda, the probability of participation is low. Civil society organizations may also view societal engagement processes as an unwelcome competition, with respect to representing the voice of civil society.

Civil society organizations that depend on donations such as environmental organizations tend to refrain from engagement on issues which are not (yet) relevant to the wider public. When an issue has not yet been brought to the attention of the public, it is difficult to campaign and raise the necessary resources. Only when a public debate has reached a certain momentum, does the decision-making situation change: participation becomes less a question of whether one can afford to be part of the engagement process and more one of whether one can afford not to be.

Third sector actors can perceive the relevance of engagement processes as low when the framing of the process is pre-defined and perceived as too narrow to allow the pursuit of their own goals. A dialogue on "New dietary approaches for the prevention of obesity", for instance, may cause concern that it will exclude exchanges on other options to address obesity and the more fundamental question of whether obesity is a problem at all.

Create relevance

Policy makers and governments can ensure that engagement has relevance for citizens and third sector actors by

- Including them in research agenda-setting processes
- Providing funding programmes based around societal challenges or needs
- Providing open calls for research
- Opening up advisory boards to third sector organizations

Opportunities for citizens to co-shape visions of the future serving participatory agenda-setting

Citizens may wish to exchange views with others on what constitutes a desirable future. This can be because they are content with the current situation and concerned about potential change, or because they are dissatisfied with the current situation and longing for change. They may, for example, be concerned about the traffic situation in their own town or be worried about wider processes of globalization and modernization and how these will affect their own lives and those of others. These concerns can be an incentive to get involved in participatory agenda-setting processes. Citizens can contribute to the design of research agendas by co-shaping visions for how we want to live in the future. These visions can help policy makers prioritize the basic and long-term directions of research. This engagement occurs early-on and does not require citizens to be informed about abstract and technical matters.

Inspiring examples

Shaping research directions and agendas

The European Union funded projects [VOICES](#) and [CIMULACT](#) are examples of research projects that have uncovered citizens' visions of the future and transformed these into long-term research and innovation policies and topics. The aim was always to make the European research agendas relevant and accountable to society.

An example at a national level is a series of citizen dialogues coined *Forums for the Future* organized by the German Federal Ministry of Education and Research. The forums were designed to inform the direction of education and research through discussions around future topics such as “Teaching, Learning and Living in the Digital World” (you can find more information [HERE](#)).

Opportunities for third sector actors to co-shape research programmes and funding guidelines

For third sector actors, especially third sector organizations for which research findings are a valuable organizational resource, it can be an attractive opportunity to co-shape concrete research programmes and funding guidelines. Research programmes are one of the few political tools to shape research and innovation systems.

Inspiring examples

Multi-actor research and innovation agenda process including civil society organizations

In Germany, the Federal Ministry of Education and Research in cooperation with other ministries established the *National Platform City of the Future*. More than 100 representatives from municipalities, science, businesses, and civil society worked together in an agenda-setting process for promoting sustainable urban development. As a result of this process the platform produced a strategic research and innovation agenda. This agenda sets out how research can contribute to sustainable urban development (you can find more information [HERE](#)).

Funding based around societal challenges or needs

Calls for research projects can be more attractive to third sector actors when they are not defined in narrow terms, such as research for further developing a certain research area or implementing a particular technology. Calls can be more relevant to the actors’ genuine interests when they are focused on societal challenges or needs and invite multi-actor consortia to design projects that in some way address these challenges or needs. Such ways may include research on social or business innovations or both.

Inspiring examples

Framing by stakeholders

The *Challenge-Driven Innovation Programme* is a novel approach to funding that has been developed by the Swedish Innovation Agency. The programme funds collaboration in research and innovation within consortia of partners from different parts of society, and there is a requirement for all consortia to include relevant stakeholders. The specific feature of the programme is that the consortia themselves define how to tackle one of the programme’s identified challenges (you can find more information [HERE](#)).

The Academy of Finland, the Finnish research funding agency, has introduced societal engagement in its strategic research programme (*Research-based knowledge to support society*) by requiring that research proposals contain a social interaction plan. This plan specifies which societal actors the project will interact with and how, and the intended societal impact and benefits. The aim of this approach is that research questions are framed according to stakeholders’ perspectives. Project proposals are evaluated with regard to their social interaction plan by a so-called relevance panel. This evaluation has the same weight as the research plan (evaluated by an international scientific review panel). In every project a certain percentage of the budget is allocated for societal interactions – and a person responsible for this interaction has to be named (you can find more information [HERE](#)).

Open calls

Open calls are another way to speak to third sector actors’ core interests and benefit from the specific knowledge they offer. Open calls would enable them to define their own challenges and needs, and design projects which match their missions. Such calls could make the sole requirement, for instance, to “do research with or for the third sector”. Currently, entirely open calls seem to be missing from EU research systems.

Opening up advisory boards to third sector organizations

Another way to include the views and knowledge of the third sector is to offer third sector organizations such as environmental or consumer organizations (greater) opportunities to participate in committees that advise on funding programmes and policy which otherwise only (or predominantly) draw upon the views of academics and business people. Third sector organizations are relevant actors for feeding societal concerns and needs into the development of research strategies and establishment of funding programmes.

Research funding organizations can help create relevance by

- Providing research calls for the engagement of citizens and third sector actors in shaping local/regional environments using established and innovative approaches such as community-based research and real-world laboratories
- Opening up advisory boards to third sector organizations

Addressing the local and regional scale

Citizens are more likely to be interested in taking part in research and innovation activities when these relate to something which is of concern to them. When engagement processes deal with practical issues and have a clear relation to every-day life, for instance, by dealing with matters of local or regional concern, this can be an incentive to participate. Likewise, invitations to engage can be particularly compelling when they relate to the interests, experiences, or fears of particular groups of people, who are the same age group or live in the same environment. Engagement at the local/regional level can be used as a starting point and then be linked to national and European aspects and also engagement projects.

Inspiring examples

Citizens co-shape urban mobility

The *Future City-Lab – Real-world lab for a sustainable mobility culture* is a research project that was developed as a platform for new formats and new partnerships for promoting sustainable mobility in a German urban area. Citizens supported, for instance, scenario development by developing visions of future mobility for this urban area. Future City-Lab is part of a funding programme of one of the German states that finances several real-world laboratories at different universities. Real-world laboratories provide the opportunity for citizens to engage in shaping their own environments. This environment may be a town, a city district, a region, or an organization. In these environments, researchers and societal actors both shape transformations and investigate these in a joint effort (you can find more information [HERE](#)).

Elderly people co-shape their local environment

The Belgian Ageing Studies Group (BAE) at the Vrije Universiteit Brussel and Hogeschool Gent carries out research to support older adults by involving them as main actors in the shaping of their local environment. An important finding of one research project implemented by a municipality was that a substantial number of older adults were facing feelings of loneliness. In response, the municipality developed a neighbourhood project to tackle this by means of volunteers. After evaluation of these interventions had shown that the number of people facing feelings of loneliness had reduced significantly, the municipality organized a post for a “mobile civil servant”, who visits old people in their homes (you can find more information [HERE](#) and [HERE](#)).

Opening up advisory committees to third sector organizations

Funding organizations can involve third sector organizations in funding decisions on societally relevant research, monitoring of such research parallel to project implementation, and valorisation reviews of the overarching research programmes. This provides third sector organizations with opportunities to co-define what societally relevant research is.

Inspiring examples

Stakeholders co-shaping funding decisions and monitoring research

Responsible Innovation – Ethical and Societal Exploration of Science and Technology is a funding programme that was run by the MVI, the Dutch Organization for Scientific Research. The Responsible Innovation programme was aimed at investigating the potential ethical and societal issues of emerging technologies and contributing to shaping these technologies at an early stage. In order to do so, projects funded by the programme were not only interdisciplinary, involving humanities, social sciences, as well as natural and engineering sciences, but also included a “Valorisation Panel” consisting of stakeholders in the respective field supporting the researchers to take societal needs into consideration during the research process. Moreover, the selection of funded projects was not carried out on the basis of scientific criteria only. A second criterion was the societal relevance of the projects which was evaluated by a “Societal Panel” composed of stakeholders (you can find more information [HERE](#)).

Research organizations and other engagement performing organizations can contribute to creating relevance by

- Establishing or using processes and structures to connect with society on a more continuous basis
- Employing scenarios and use cases when engagement is about newly emerging technologies and research areas
- Assuring openness of outcomes in engagement processes
- Linking engagement to the realities of citizens and third sector actors

Establishing or using processes and structures to connect with society on a more continuous basis

Such processes and structures can make it easier to discover the genuine interests and concerns of citizens and third sector actors and (co-)develop co-operations relevant to these actor groups. Research organizations can, for instance, encourage and arrange for secondments of researchers to the non-profit sector, which can help them establish contacts with third sector actors. Researchers can develop ideas and insights about how the experiences, ideas and perspectives of these actors can enhance their research and what they can provide to address these actors' concerns and interests.

Currently, we find that many universities in the EU include units dedicated to outreach and communication. These can be extended to support units for societal engagement in research, or new units can be established for assisting societal engagement. Specialist knowledge brokers could be employed to act as intermediaries. They can assist in developing relationships and networks between researchers and societal actors. Besides this match-making activity they can act as contact persons, for instance, when critical situations in collaborative research processes need to be managed.

Research organizations can also include third sector representatives on their governance bodies. Such governance bodies may also be tasked with providing a non-science based perspective to ensure that the research organization is more responsive towards societal needs and expectations. Such bodies usually comprise members from the private sector, although rarely organizations from the third sector. Science shops are another way of connecting with society. A science shop is a facility set up to carry out or mediate research requested by civil society organizations or citizens. A number of universities in the EU have established partnerships with science shops or run their own science shops.

Inspiring examples

Science shops and networks of science shops

The Antwerp Science Shop is a service provided by the University of Antwerp. Non-profit organizations can use this service to access scientific support in the form of research or advice. In turn, their questions generate opportunities for socially relevant dissertation research (you can find more information [HERE](#)).

More information on science shops can be found on the [WEBSITE](#) of the International Network of Science Shops.

Using scenarios and use cases in engagement processes

When engagement is implemented at an early stage of science and technology development, it may be possible to use scenarios and fictitious use cases to stimulate interest and responses from those who are potentially affected, or concerned, by a new technology or research field. Scenarios and use cases can serve as contexts that show relevance to peoples' everyday lives, of an abstract novel technology, for instance. They can help bring participants' own experiences to bear, allowing them to arrive at personal statements, for instance, on what is a good life or what kind of technologies they may want, and to hold a lively debate which can inform the assessment and development of the new technology. Scenarios and use cases should be presented in an appealing and entertaining manner, for example, as animated videos.

Assuring openness towards outcomes in engagement processes – consensus is only one option

It is a guiding idea of RRI that stakeholders step away from their interests, consider the perspectives of others, and create a common vision. It is important to acknowledge that this is an ideal which may be difficult to achieve. Different groups and organizations have different interests, priorities, policies and agendas as they pursue different goals. Third sector actors may see greater chances to bring in their particular views and

interests into a multi-actor engagement process when the goal of this process is not necessarily to reach consensus (for instance, on what are the main sources of a problem or the best ways forward). They may be more interested in getting involved in a process that aims in the first place at clarifying where consent and dissent exist and developing on that basis a set of options for creative and workable solutions to a given challenge.

Linking engagement to the realities of citizens and third sector actors

Organizations that establish such engagement processes need to explain clearly during the recruitment phase the ways in which the engagement process or project relates to the lives, organizational backgrounds, and missions of the target participants.

IMPACT

Lack of impact

Citizens and third sector actors may refrain from accepting an invitation for engagement when they expect the process to have little or no impact in terms of policy or societal relevance.

Lack of clarity of goals

Citizens and third sector actors can be discouraged from taking part in an engagement process when they perceive it as a purely academic exercise divorced from the real world. Invitations to engage in rather abstract terms, such as 'co-creation of knowledge for sustainable futures' can appear very distant from societal and political realities.

If the goals of an engagement activity and its expected outcomes are vague, then this too can dissuade third sector actors, as they will perceive the chances of an impact to be low.

Lack of links to on-going policy and decision-making processes

Third sector actors may sometimes find an engagement opportunity unattractive in strategic terms even if the topic or concern aligns closely with their own mission and agenda, and shaping relevant policies or political decisions is a clearly defined goal. This can be the case when there are no clear links to on-going policy processes or adequate links to those with decision-making power. A lack of these links is usually interpreted as denoting only a low chance of impact. In such cases, alternative use of resources, for instance, for campaigning or lobbying activities may appear the better strategy.

Lack of inclusiveness and sufficient numbers

Citizens invited to engage in research and innovation policy (for instance, in terms of co-shaping research strategies or consultations on how to deal with newly emerging technologies) may be convinced that it requires the involvement of a significant number of citizens from diverse backgrounds for policy and decision-makers to pay attention and take into account citizens' views. They may refrain from taking part in engagement formats involving only small groups of citizens, as they perceive these will be unable to compete with the highly influential lobbying groups, political interests, and expert opinions.

Negative experiences

If citizens and third sector actors have prior negative experiences in terms of little or no impact, this can deter them from engaging in a similar initiative or project. Many third sector actors report that few, if any, of the recommendations that have come out of previous engagement initiatives have been adopted by powerful actors such as the European Commission or member state governments.

Provide for impact

Policy makers and governments can help engagement processes achieve impact by

- Providing funding programmes for research-based engagement processes, the results of which directly feed into policy processes
- Providing training and support for public authorities
- Establishing transnational infrastructures for exchanges on good impact practices

Funding of research-based engagement processes with direct links to policy processes

There can be better chances to influence policy, if research-based engagement processes have clear links to policy processes. Therefore, the existence of such links can have a significant impact on decisions by members and funders of third sector actors, and citizens, as to whether expending time and resources required to participate in these processes is in their interests.

Inspiring examples

Transdisciplinary research for the energy transition

The funding initiative *Kopernikus Projects for the Energy Transition* forms a comprehensive research and development initiative for the transformation of the German energy system in accordance with the “Energy concept 2050” of the German federal government. Key elements of the governmental energy concept are specific targets to 2050 that sketch the basics of the future energy supply which should be economically viable, environmentally friendly, reliable and socially acceptable. In the four Kopernikus projects, science, business, and civil society are collaborating in inter- and transdisciplinary research for developing solutions for how this can be achieved. The projects are funded by the German Federal Ministry of Education and Research (you can find more information [HERE](#)).

Training and support for public authorities

In order to improve the effectiveness with which societal engagement is used, training options and support can be offered to public authorities that commission societal engagement in research and in research and innovation policy.

Inspiring examples

Training and support for authorities commissioning societal engagement

Sciencewise is a UK funded programme that provides co-funding and specialist advice to help Government Departments and Agencies develop and commission public dialogue. It aims to improve Government policy making involving science and technology by increasing the effectiveness with which public dialogue is used, and encouraging its wider use where appropriate (you can find more information [HERE](#)).

Establishing transnational infrastructures for exchanges on good practice in impact

Currently there is limited knowledge concerning the question of how to achieve societal and scientific impact through engagement with citizens and third sector actors. How to demonstrate or even measure societal impact is largely an open issue. There are also serious doubts whether some impacts such as learning or changes in mind-sets are detectable or measurable at all. Certainly, it depends on the engagement exercise and the relevant impact categories, performance indicators, and promising ways to achieve impact. Nevertheless, to share and build knowledge based on engagement examples, transnational infrastructures for exchange and reflection among funding agencies, national engagement support structures, engagement performing organizations, and of third sector actors and other participants in engagement processes could be established.

Research funding organizations can help engagement achieve impact by

- Including the requirement to combine online and offline approaches in calls for research involving societal engagement
- Providing national-level support in regard to good practice in impact
- Funding research on impact

Requiring a combination of online and offline approaches

Digital tools provide new possibilities to include different groups in an engagement process and reach out to more people in communicating and reporting about this process. This can help achieve impact, for example in terms of awareness-raising of grand societal challenges at a larger scale. The use of online engagement formats requires, however, specific knowledge, moderation, and infrastructures which are not available to all sections of the population to the same extent. This is one reason why it seems preferable to combine online approaches with offline approaches. Moreover, face-to-face encounters can play an important role in building trust. Direct contact is the starting point to reconsider pre-conceived ideas and diminish prejudice.

Inspiring examples

Online/offline dialogue format initiated by a third sector organization

The *German Science Debate*, an initiative of the journalist association TELI e.V., i.e. a third sector organization, combines online debates of science policy issues of vital importance to contemporary society with face-to-face-debates. The debates include politicians, scientists, the media, and the public (you can find more information [HERE](#) and [HERE](#)).

Providing national-level support in regard to good practice in impact

Research funding organizations can help organizers and participants of engagement processes to strive for, achieve, and demonstrate impact by offering the current state of knowledge in these respects, for example via online tools and publications. It is important that these tools and publications stress that impact is not restricted to influencing policies. There are other benefits to be gained from engagement processes. Examples include direct contributions to tackling grand societal challenges such as positive environmental or health impacts, or a greater awareness of the public's role and responsibility in contributing to solving these challenges.

Inspiring examples

Guide to planning for impact

The Irish Universities Association together with the Irish Research Council published a national report on *Engaged Research*. Engaged research is defined as research that is advanced *with* community partners rather than for them. The report offers a guide to planning for impact of engaged research and key impact categories to consider when assessing the research (you can find the report [HERE](#)).

The United Kingdom's *Research Excellence Framework* provides a repository of good practices concerning the impact of research on wider society (you can find the repository [HERE](#)).

Based on the general Dutch *Research Evaluation Framework* ([STANDARD EVALUATION PROTOCOL 2015-2021](#) SEP), the University of Leiden has developed an [INTNERAL ASSESSMENT STANDARD](#) that provides an impact matrix with several questions and indicators including impact and engagement with society.

Funding research on impact

In order to increase knowledge of good impact practice, research can be funded that investigates what processes and methods can help achieve societal and scientific effects and benefits.

Inspiring examples

Virtual academy provides knowledge of impact achievement

The web-based [TD-ACADEMY](#) offers a continuously evolving knowledge base for researchers and others on how to increase the potential impact of transdisciplinary (td) research. The *td-Academy* is part of the project TransImpact and funded by the German Federal Ministry of Education and Research.

Research organizations and other engagement performing organizations need to communicate the main goals, expected outcomes and impact during the participant recruitment phase or define goals, outcomes, and impact jointly with the participants, for example in a pre-project stage. Only a shared

understanding of the expected impact allows for a collaborative effort in achieving this impact. If the intended impact is influence on policy decisions, it is advisable to include policy makers in the engagement process, for instance, as counsellors or participants in important meetings.

TRUST

Lack of trust and critical views of others

Lack of trust regarding the agendas of sponsors and organizers of societal engagement and negative views of other (potential) participants may act as a barrier to societal engagement.

Mistrust of the intentions of engagement processes

Citizens and third sector actors can mistrust the intentions of an engagement initiative. They may suspect that sponsors and organizers of engagement in policy-related research, or processes directly related to research and innovation policy, will not take societal engagement as an opportunity to rethink their policies or to have them developed jointly with societal actors, but to validate decisions which have already been taken. Lack of clarity on why societal actors are involved and what exactly they are expected to contribute, can lead to scepticism of this kind, as can prior negative experiences (own experiences or experiences of others) in terms of low or no impact of engagement exercises. Mistrust may also grow in the context of deep scepticism of political and other elites and new movements declaring that governments do not work for the people but for their own and lobbyists' interests.

Mistrust and critical views of other actors

The perception that researchers and scientific experts are incomprehensible, use impenetrable jargon, and are unaware of the policy world and of pragmatic requirements can negatively affect the willingness to cooperate with them. Citizens in particular may be reluctant to participate in dialogues around technical and complex issues, when they have serious doubts that scientists or other actors will be able to present the issues in an understandable way and demonstrate that they have relevance to citizens' lives.

Citizens and some third sector actors may also feel uncomfortable with the idea of interacting with scientists, because they perceive a huge distance between science and the wider public. They may view science as another universe, completely external to their lives.

The willingness of third sector actors to engage in multi-actor engagement processes may be impacted negatively by beliefs about how other actor groups behave, about the values they espouse, and their motivations for engagement. Industry's remit is often seen as largely profit based, possibly at the expense of wider public interests. There can also be doubts whether research-based stakeholders are really interested in what third sector actors have to say and willing to engage as equals in a two-way-dialogue.

Build trust and mutual understanding

Policy makers and governments can contribute to building trust in engagement processes and the engagement capacities of researchers and to advancing mutual understanding between the relevant actor groups by

- Committing to transparency on how future policy decisions relate to engagement results
- Supporting research organizations in regard to engagement
- Providing funding opportunities for informal encounters and networking among scientists, third sector actors, and other relevant actors
- Providing funding for citizen science

Committing to transparency on dealing with engagement results

Policy makers and governmental agencies can commit themselves to transparency regarding how the main findings and outcomes of policy-related engagement processes relate to their decisions.

Supporting research organizations in regard to engagement

Societal engagement is a new challenge not only for most individual researchers but also for most research organizations. Therefore, funding and support structures can be developed to assist research organizations in building up engagement competence and developing their own support structures.

Inspiring examples

Support for universities and researchers

The UK's National Coordinating Centre for Public Engagement (NCCPE) supports universities and individual researchers to increase the quality and impact of their public engagement activity (you can find more information [HERE](#)).

Funding opportunities for informal encounters and networking

It can be easier to set up multi-actor engagement processes when the different actor groups already have some degree of mutual understanding of each other's views, interests, and motivations. Arenas and meeting places for informal encounters of third sector actors, scientists, business people, and policy makers around current research and innovation topics without pressure to come up with a shared output can help improve this understanding. They can also help develop a certain basis for mutual trust. This may happen more easily when a dialogue is facilitated, when the participants are not asked to form a consensus or find a decision, and when results are documented for all while not attributing specific comments to any individual.

Science festivals, science slams, and science cabaret are contexts in which third sector actors, as well as citizens, can meet scientists and researchers in a relaxed atmosphere. Humour, comedy, satire, and other entertaining elements can help build bridges between the worlds of science and society.

Inspiring examples

Science festivals and events

The *Edinburgh International Science Festival* aims to inspire people of all ages and backgrounds to discover the world around them. For two weeks, different formats of exchange are offered (you can find more information [HERE](#)).

Science is Wonder-ful! is a special event at the European Parliament, where the public at large can meet and interact with scientists and researchers. Its aims include stimulating interest in and curiosity for science and research through a set of 'edutainment' activities and challenging the communication skills of researchers present at the event (you can find more information [HERE](#)).

Providing funding for citizen science

Citizen science can also help to build bridges between science and society. Citizen science is a newly emerging approach that often involves citizens collecting research data for scientists that require a great number of spatially dispersed contributions, such as for weather or environmental observations. In some cases, citizen science activities go beyond pure delivery of data via websites, mobile phones or social media and include more direct exchanges and opportunities for citizens to meet scientists and researchers personally.

Research funding organizations can help build trust into the engagement capacities of researchers, and to advance mutual understanding between the relevant actor groups by funding support staff to sustain engagement between research organizations and third sector actors, citizens, and other research partners during funded research projects.

Funding of knowledge brokers and facilitators

The Canadian *Community-University Research Alliances* (CURA) system was an infrastructure that allowed the funding of knowledge brokers or facilitators. These intermediaries provided support to both researchers and civil society organizations and helped them carry out research in a cooperative manner and resolve conflicts (you can find more information [HERE](#)).

Research organizations and other engagement performing organizations can contribute to building trust in engagement processes and the engagement capacities of researchers, and to advancing mutual understanding between the relevant actor groups by

- Providing full transparency of the engagement process
- Using facilitators
- Offering training for researchers
- Providing opportunities for informal encounters and networking among researchers, citizens, third sector actors, and other relevant actors

Providing full transparency of the engagement process

A fully transparent engagement process is essential to create trust. There needs to be transparency on various levels: rationale, purpose, and method of the engagement process; the roles and relationships of the actors involved; dealing with expected results and how results are used; as well as the intended impact. Transparency is also one of the core values of many civil society organizations. For these organizations, full transparency of an engagement activity can be an incentive or even a precondition to engagement.

Engagement organizers need to ensure that possible misunderstandings regarding the process are avoided at the point of recruitment. Citizens should, for instance, not fear that they are expected to speak ‘for society’. They are likely to be more inclined to participate when they are invited to exchange personal views with other citizens and thereby produce more reflected views ‘from within society’ that can inform research and research and innovation policy. Feedback loops can be included in the engagement process in order to review and, if required, reconstruct shared understandings of the process.

Using facilitators

The use of skilful and independent facilitation helps to deal with distrust. Third sector actors (and also other actors) may be more willing to get involved with research and research and innovation policy when there is appropriate provision for dealing with a diversity of views, power imbalances, and potential conflict.

Offering training for researchers

Engaging with citizens and third sector actors in a meaningful manner requires theoretical and methodological knowledge. It furthermore requires a certain engagement competence. Universities and other research organizations can offer training, for instance, under the framework of their soft-skills training programme for staff. Relevant topics include: interactive communication with non-academics (for instance, the importance of avoiding academic jargon), interactive learning formats, facilitation, mediation, or training in selected engagement formats or approaches.

Research organizations and other engagement performing organizations can also raise awareness among their staff about external opportunities for training that is free or at low cost. They can also try to support these training networks or activities, for example, by joining a network or providing relevant expertise. Currently, training opportunities are quite limited.

Online training opportunities concerning societal engagement

The RRI Tools website offers information and training materials tailored to all actors relevant for RRI including the research community. This includes information and materials on societal engagement (you can find the training materials [HERE](#)).

The [LIVING KNOWLEDGE NETWORK](#) offers training opportunities that are also relevant for researchers such as summer schools and a web-based toolbox. The Network is composed of persons active in or supportive of Science Shops and Community Based Research. It aims to foster public engagement and participation in relation to all levels of the research and innovation process.

Providing opportunities for informal encounters and networking

Science shops are an option that mediates research on request from civil society organizations or citizens and also creates arenas for these actors to meet and exchange views with scientists and researchers in an informal atmosphere.

Another option is that universities and other research organizations initiate or engage with science-policy fellowship programmes that promote science-policy and science-society exchanges. Foundations are one possible funder of such programmes.

Inspiring examples

Science-Policy Fellowship Programme

The *Mercator Science-Policy Fellowship Programme* offers networking opportunities for academics, journalists, and senior policy professionals from the public sector and civil society. Based on the thematic interests of the fellows, the universities organize face-to-face meetings with accomplished scholars in order to discuss timely questions. The programme is funded by the German Stiftung Mercator and administered by the strategic alliance of a group of German universities (you can find more information [HERE](#)).

Third sector actors can contribute to building mutual understanding between the relevant actor groups by exploiting existing opportunities or providing new ones (such as the *Living Knowledge Network*) for informal encounters and networking activities.

KNOWLEDGE AND SKILLS

Lack of knowledge and skills

When it comes to research and research and innovation policy, citizens and third sector actors may fear they lack the necessary knowledge and skills to engage.

Lack of knowledge about science and scientific topics

Citizens can refrain from participation when they lack a basic understanding of science and scientific working methods. They may also be reluctant to participate when they lack knowledge about a given scientific topic. The topic may have not been of interest to them so far or it may be that there is hardly any knowledge available because the respective research or innovation field is still at a very early stage. In these cases, citizens may not feel confident to discuss with other citizens and/or to exchange with experts.

Many third sector actors are not experienced or equipped for engaging with research and research and innovation policy. Low levels of topic-related knowledge and lack of competent individuals or personnel to actively and effectively take part in an engagement process can deter them from becoming involved.

Lack of argumentative and rhetorical skills

Citizens in particular may think they lack the communicative skills to participate in dialogues and discussions. When engagement includes the use of technical devices such as web-based tools, microphones for making one's own contributions, or video/audio recording, and when citizens are not familiar with such devices, this can have an additional discouraging effect. This is especially likely with less privileged individuals. Societal engagement and political participation generally tend to be dominated by people of higher socio-economic

status, such as the middle classes. Depending on how it is designed, societal engagement in research and in research and innovation policy risks perpetuating the peripheral role of the less privileged. When self-recruitment is used for participant selection, when citizens are invited to deal with highly abstract and unpopular topics, when engagement is only about exchanges of arguments (and not for instance, about exchanges of personal experiences and views), it is marginalized groups such as migrants, the socially vulnerable, and the less educated who are most likely to be deterred from getting involved.

Lack of knowledge of funding systems and administrative procedures

Third sector actors may not get involved in research projects because they have little or no understanding of the research system in their country and at EU level. They may not be aware of research funding opportunities for third sector actors or lack the knowledge of how to (jointly) set up a project proposal and what is required from beneficiaries of publicly funded research in terms of research and administrative tasks and responsibilities.

Build knowledge and skills

Policy makers and governments can contribute to building knowledge and skills by

- Providing national-level support on engagement (also) for third sector actors
- Opening up advisory boards to third sector organizations
- Promoting scientific literacy and strengthening science journalism
- Embedding engagement more widely in the education system

Providing support through National Contact Points

The existing network of National Contact Points (NCPs) is the main structure to provide guidance, practical information, and assistance on all aspects of participation in EU research programmes. The NCPs are established at national level and give personalized support. They could contribute to capacity-building for third sector actors by acting also as contact points for societal engagement in research. They would build up competence for offering their basic services also in relation to participatory and collaborative research, for instance, in terms of assistance in partner search or guidance on choosing relevant topics and types of action. The support of initiatives and projects involving researchers and societal actors could be explicitly included in their mandate.

Opening up advisory boards to third sector organizations

Capacity-building for third sector actors can also occur through learning by doing. This can take place, for instance, through participation in committees that advise on funding programmes and policy.

Promoting scientific literacy

Science education can be promoted by including principles of scientific thinking more widely in the school education curricula. When citizens have a basic understanding of the principles in which science works, it may appear less daunting. This may encourage greater contact with scientists.

Science journalism can help explain scientific facts and findings and stimulate interest in research and innovation and thereby contribute to ensuring that societal needs and concerns feed more effectively into the research and innovation systems. One way to strengthen science journalism is to make it an integral part of the education of journalists at universities. Another way is to establish structures for dialogue between policy, science, and journalists.

Inspiring examples

European Science-Media Hub

A *European Science-Media Hub* will be established and overseen by the STOA Panel within the European Parliament (STOA stands for the Parliament's Science and Technology Options Assessment). The hub will foster an effective dialogue between Members of the European Parliament, the scientific community and journalists, especially in relation to new scientific and technological developments or issues. The activities will promote networking, training, and knowledge dissemination.

Campaigning knowledge and information to the citizens through journalists serves also to deal with discussions around fake news (you can find more information [HERE](#)).

Embedding engagement more widely into the education system

Teaching on civic engagement and engagement in research and in research and innovation policy can be included in classes on science, citizenship or similar subjects in secondary schools. This can promote citizens' awareness, interest, and willingness to be engaged in scientific debates from an early age and increase their confidence that they can be valuable partners in science and governance of science.

Educational organizations can furthermore integrate elements of engagement into school life. They can make use for instance, of debating clubs, school parliaments or class councils in which the pupils debate, discuss and decide on self-selected topics. In addition, societal debates on research and innovation can be simulated in science classes. Use of such formats can help develop competences early on in community-building, dialogue, discussion, and participation.

The Erasmus+ programme of the EU could showcase examples of societal engagement in research and innovation in order to attract applications in this field. Erasmus+ is the new EU programme for education, training, youth, and sport which includes (amongst others) the Lifelong Learning Programme (LLP) and the Youth in Action Programme.

Funding organizations can contribute to building knowledge and skills by

- Funding of capacity-building for third sector organizations
- Funding of research into mechanisms of inclusion and exclusion in dialogues

Funding of capacity-building for third sector organizations

Third sectors actors, who have a certain interest in getting engaged with research, may be more inclined to actually do so when they have better knowledge about the academic sector, national and European research and innovation policies, and what possible ways there are to make their opinions known. For them, it can be attractive to be able to apply for funds which are directed at capacity-building for civil society in these respects. Capacity-building projects could also result from open calls for "doing research with or for the third sector".

Inspiring examples

Funding of capacity-building in research and innovation policy

The German government has funded a four-year project, called the *Zivilgesellschaftliche Plattform Forschungswende* (Civil Society Platform Research Transition) as part of its policy „Transforming our world: the 2030 Agenda for Sustainable Development“. The platform is dedicated to developing the capacities of civil society organizations in research and innovation policy. It provides arenas for discussion and initiatives dedicated to moving towards a participatory and transparent research culture in Germany and beyond. Its network comprises environmental organizations, social organizations, development aid associations, churches, and research institutes devoted to sustainable development (you can find more information [HERE](#) and [HERE](#)).

Advice on information and support for capacity-building

The [RRI TOOLS WEBSITE](#) provides an overview of existing information and links for civil society organizations concerning "How to advocate your idea and set up a project proposal: Capacity building for CSOs".

Funding of research into mechanisms of exclusion and inclusion in dialogues

Citizen engagement that comprises citizens from different socio-economic backgrounds, including less privileged groups, can be part of future 'success stories' of RRI. In order to be convincing, these success stories need to show that all participants were actively involved in the interactions. Research can be funded to determine how this can be achieved. We need to learn more, for instance, about the effects of differently designed engagement processes (with strong or weak facilitation, use of narratives or not) on the levels of inclusion and exclusion in the communications and discussions.

Research organizations and other organizations performing engagement can contribute to building knowledge and skills by

- Combining dialogue and information in engagement processes
- Using attractive stimuli to support dialogue
- Strengthening science journalism

Combining dialogue and information in engagement processes

Citizens and third sector actors who are invited to an engagement activity need to know in advance that they will receive all the process- and content-related information required to take part in the engagement process and its dialogues in a meaningful manner. Certain ways of providing content-related information are likely to be incentives to participation. These need to be emphasized in the recruitment process. Citizens and third sector actors may be more inclined to participate when they know that engagement will not only be challenging, but also entertaining. This can take the form of an animated video, presentations inspired by Science Slams (competitions among usually young scientists who strive to give a thrilling, entertaining and instructive short speech about a topical research topic), or a little stage play.

Citizens and third sector actors may be more willing to get involved when they learn that special care has been taken to present balanced information, for instance through expert contributions that include diverse perspectives. Possibilities for self-learning such as interactive websites or a list of relevant web-links can meet the demands of those who wish to obtain more in-depth information and may mitigate the concerns of those who fear restricted and biased information. The more abstract and technical the issues to be dealt with in the engagement process, the more important it is to offer information in different ways. However, it cannot be assumed that every participant has private access to the internet. This needs to be checked, and if required, the possibility to use the internet in locations related to the engagement process should be provided.

Using attractive stimuli to support dialogue

Taking an active part in a dialogue can be difficult for many citizens and third sector actors when the contents are abstract and technical. They may be more inclined to participate when they know that the discussion will include illustrative examples and accessible narratives.

Inspiring examples

Techno-moral vignettes

The SynBio Scenarios of the Rathenau Institute, The Netherlands, on possible futures for synthetic biology in our lives are presented in the form of short stories (so-called techno-moral vignettes) (you can find the scenarios [HERE](#)).

Short movies

Another attractive medium is short movies, as presented during the *International Synthetic Biology Festival*, a science art festival in Vienna, Austria (one example you can find [HERE](#)).

Strengthening science journalism

There are also ways for research organizations to contribute to expanding the competencies of science journalists, for instance, by co-financing support centres for science journalism.

Inspiring examples

Science media centres

The Science Media Centre Germany helps journalists with their reporting. For instance, it helps find experts on a topic, provides access to off-the-record knowledge for journalists' background research or makes it possible for journalists to take part in exclusive workshops. It is a non-profit organization financed by a foundation and a host of organizations in academia, business, the media, and society (you can find more information [HERE](#)).

Third sector actors can contribute to building knowledge and skills by taking advantage of existing and providing new training opportunities concerning third sector engagement in research and in research and innovation policy.

TIME AND FINANCIAL RESOURCES

Lack of time and financial resources

Societal engagement in research and in research and innovation policy requires the investment of considerable resources from all actors involved. In addition to knowledge and cognitive skills, resources in terms of time and finances can shape the decision to engage or not.

Lack of time and financial resources among citizens

Do I want to spend my spare time engaging with researchers and others about issues of research? Often, participation in such initiatives means citizens rushing after a hard day's work to events or workshops lasting several hours or giving up precious time at the weekend. Given the busy daily lives of many citizens, time can act as a barrier to participation. For retired or unemployed people, time may be less of a problem. This is, however, not necessarily so. Time is also rare when there are children or elderly people who need to be looked after. Loss of income can act as a barrier, when invitees have jobs involving work in the evening or during the weekend, when most engagement projects take place. Special costs can occur in terms of childcare or costs for care of elderly dependents or others needing continuous help.

Lack of time and financial resources among third sector actors

Often, the resource situation of third sector actors is precarious. This holds especially true for small and medium-sized organizations and informal groups which are funded only by their members and donations. They need to spend their available time and financial resources on their top-priority issues. Therefore, they may refuse an engagement opportunity when it does not fully match with their mission and top-priorities. Many third sector organizations have difficulty justifying time and money spent on participation when engagement with research and innovation is not part of their formal mandate.

Provide and save resources

Policy makers and governments can contribute to strengthening the resource basis of citizens and third sector actors by

- Recognizing third sector organizations as eligible actors in research
- Considering and developing new models for compensating engagement efforts

Recognizing third sector organizations as eligible actors

Third sector actors can be more inclined to get involved in a research project when this implies a partnership with researchers on an equal level. The conditions for this are more favourable when they are involved as partners of the project consortium and not as participants in one-off events associated with a project, or as members of an advisory board. Collaborating as a research partner in a project requires that third sector actors are acknowledged as eligible by funding authorities. While civil society organizations and other third sector organizations such as trade unions are eligible in parts of the research funded by the EU and in some EU countries, in other ones this is, however, not the case yet.

Considering/developing new models for compensating efforts

Compared to taking part in elections, getting involved with research and research and innovation policy is more demanding and resource-intensive (and usually does not offer any decision-making power). It may therefore be viewed as a less egalitarian form of citizen engagement. Do we want to try to equalize engagement with research, and how might we do so? One idea is for the state to provide allowances to employees to participate in engagement events combined with fiscal relief for employers, for instance in terms of governmental support of corporate social responsibility. Is this socially fair and economically viable – or would it be, for instance, too great a burden for small and medium-sized enterprises? These are questions which can be dealt with in wider

policy and public discourses on how we want national and European cultures of political participation and civic engagement to look like.

Funding organizations can contribute to strengthening the resource basis of citizens and third sector actors by

- Funding of co-design and consortium-building for collaborative research projects
- Recognizing financial compensation for engagement as eligible costs

Funding of co-design and consortium-building for collaborative research projects

The conditions for collaborating on an equal basis are especially favourable when third sector actors can design the research topic and process together with the researchers and further actors that may be involved in a research project initiative. This is a demanding process for all actors involved which takes time. Third sector actors need financial support to take part in setting up new partnerships and the co-design of a research project. A two-stage funding process that provides a smaller grant to build the consortium and prepare the project proposal and a larger grant for actually carrying out the project (if selected for funding) can act as an incentive to participate in multi-actor projects. Furthermore, it can be perceived as commitment by the funding organization to research with the engagement of societal actors.

Inspiring examples

Grants for developing consortia

The Swedish funding programme *Challenge-Driven Innovation* includes a first funding stage in which funding is given for the initiation, development of the idea and the consortium, or for a technical feasibility study (you can find more information [HERE](#)).

The Canadian Social Science and Research Council has for some time been providing special grants to first develop partnerships for research projects that will be executed in partnership with organizations from civil society (you can find more information [HERE](#)).

Recognizing financial compensation for the efforts of citizens and third sector actors in engagement processes as eligible costs

Given the scarce resources of many citizens and third sector actors, it is vital that, at a minimum, the direct costs (travel and accommodation) incurred by, for instance, contributing to research projects or participation at advisory board meetings, are reimbursed. In addition, a small compensation for the work carried out might be paid. In some countries, and in EU-funded research, it is a widespread practice already that citizens are paid a small stipend to acknowledge their efforts. It is important that these costs are considered as eligible by funding organizations.

Research organizations and other engagement performing organizations can contribute to providing and saving resources of citizens and third sector actors by working with citizens in their 'natural habitats'. Lack of time is one of the reasons of why engagement processes end up with smaller numbers of participants or less diversity than intended. One way to address this barrier is for researchers to seek out citizens, instead of asking citizens to come to them. This could be done by targeting schools or contacting and speaking with people in the streets.

Inspiring examples

Meet citizens in the streets and schools

The EU-funded project NanOpinion undertook a multichannel activity on public engagement in nanotechnologies. The project used an innovative outreach approach, focusing on dialogue, to monitor Europeans' opinions on nanotechnologies across Europe. It included, amongst others, street labs and events in public and semi-public spaces. Approximately 15,000 citizens were engaged in more than 20 live events, including activities in the streets, debates and workshops. Besides, a total of 1 556 students were engaged in school activities (you can find more information [HERE](#)).

Third sector actors can contribute to strengthening their resource basis for engagement with research and research and innovation policy by

- Networking with other third sector actors
- Extending the mission of their organization

Networking with other third sector actors

One way in which third sector actors can strengthen their resource basis is actively networking with other third sector actors. This can give them easier access to required knowledge and expertise.

Extending the mission of their organization

Another option is that third sector organizations include shaping of research policy or research collaborations in their mission. This would allow them to use their own financial resources for this purpose, to build up internal structures and to develop expertise and positions.

LEGITIMACY

Lack of legitimacy

Citizens and third sector actors may also refrain from engagement when they have doubts about the legitimacy of the engagement process or their own involvement.

Lack of legitimacy of engagement process

Citizens and third sector actors may refrain from engagement when they fear that the engagement process lacks legitimacy. This may happen when engagement processes involve only small groups of participants and lack the involvement of large and diverse groups that are able to reflect broader society's perspectives.

Lack of legitimacy of engagement of citizens and third sector actors in research and in research and innovation policy

Citizens may shun engagement if they feel that citizens should not have a say about research, and that the only legitimate participants in research are scientifically trained professionals. They may also feel that the views, concerns and interests they have cannot be relevant input into the development of research and innovation policies. Similarly, third sector actors who do not have research and innovation policy as a target may not feel they are legitimate or credible participants in discussions of research strategies and agendas, or in research projects.

Build legitimacy

Promoting a culture where engagement is recognized and awarded in the research realm at different levels, including the project level, is important to build legitimacy of societal engagement in research-related activities.

Policy makers and governments can contribute to building legitimacy of societal engagement by

- Committing to societal engagement through national strategies and/or guidelines
- Providing awards for outstanding engagement projects and policies
- Encouraging research organizations to (visibly) extend their mandate through societal engagement
- Encouraging the adaptation of the scientific reputation system

Committing to societal engagement through national strategies and/or guidelines

High-level national and EU-level policy-making bodies can publicly commit to advancing societal engagement in research and in research and innovation policy. One option to do so is to issue guidelines for good practice. Another more far-reaching option is to publish a national strategy for promoting and supporting societal engagement. This strategy could include guidelines or codes of conduct which document the commitment

across different levels, from research projects to research organizations to research funding, and research and innovation policy.

Inspiring examples

Commitment to and guidance on societal engagement in research

The UK's [CONCORDAT FOR ENGAGING THE PUBLIC WITH RESEARCH](#) outlines principles for engagement that are expected to be met by organizations that receive funding. The UK's National Co-ordinating Centre for Public Engagement invites every university and research institute in the UK to sign up their [MANIFESTO FOR PUBLIC ENGAGEMENT](#).

The European Commission adopted a [CODE OF CONDUCT FOR RESPONSIBLE NANOSCIENCE AND NANOTECHNOLOGIES RESEARCH](#) and recommended to the Member States of the European Union to adopt this Code of Conduct to govern research in this field.

The [SYNTHETIC BIOLOGY DELIBERATION AID](#) provides a tool on how to deliberate questions on emerging technologies. It is the product of a research project and could be integrated into high-level guidance on societal engagement.

Providing awards for outstanding engagement projects and policies

Awards can be used to develop a culture of acknowledgement of research engaged with society. Policy makers and governmental agencies can use awards or support the use of awards, to honour research projects as examples of good practice. Awards can further be used to highlight particularly innovative initiatives or strategies for promoting societal engagement. Such high-profile acknowledgement can help raise awareness and recognition of societal engagement in research among third sector actors, the wider public, and researchers and scientists. It can also help recruit ambassadors for societal engagement.

Encouraging research organizations to (visibly) extend their mandate

Universities and other research organizations can be encouraged to integrate service to the community and/or societal engagement into their formal mandate. Research organizations that build societal engagement into their mission may apply to be certified as particularly innovative and society-friendly. One possible label for certified universities is 'civic university'.

Encouraging the adaptation of the scientific reputation system

Legitimacy of societal engagement in research also needs to be reflected in the scientific reputation system. This requires more open reward structures within the science system itself and a broader definition of scientific excellence. It requires measures of merit, performance and success which honour not only publications and patents, but also contributions to society. These contributions to society need to be included in the evaluation procedures of both individual researchers and research organizations.

Research funding organizations can contribute to legitimacy-building by

- Joining initiatives for awards in good practice or innovative methods
- Providing research calls for multi-actor, multi-level engagement processes

Joining initiatives for awards in good practice or innovative methods

Research funders can support the development of a culture of acknowledgement of research engaging with society, for instance, by joining initiatives for awards in good practice or innovative methods.

Providing research calls for multi-actor, multi-level engagement processes

Research funders can contribute to legitimacy-building also by providing research calls for engagement of citizens, third sector actors, and others that combines different formats and levels of engagement (local, regional, national, European) and so includes larger and more diverse groups of society.

Research organizations can contribute to legitimacy-building by

- Acknowledging the efforts of citizens and third sector actors in research-related engagement processes
- Providing organizational reward and recognition for engagement with society

- Inscribing service to the community and/or engagement into the organization’s mandate

Acknowledging the efforts of citizens and third sector actors in research-related engagement processes

In order to underline the value of societal engagement in research it is important for organizers of an engagement process to share with the participating citizens or third sector actors the results to which they have contributed and present these results in an appealing format. More explicit acknowledgement can take the form of small financial compensations, personal letters of appreciation, face-to-face expressions of gratitude by the end-users of the engagement results, or public acknowledgement via traditional or social media channels.

Providing organizational reward and recognition for engagement with society

Universities and other research organizations can reward and recognize engagement with society for instance by adapting academic workloads and promotion procedures accordingly.

Extending the organizational mandate

Universities and research organizations can integrate service to the community and/or societal engagement into their formal mandate and introduce new structures of research which embed research for and with society in their organizations. These structures could enable problem-orientated, trans-disciplinary, and community- or society-related research. They could open up or complement existing disciplinary structures of research and teaching.

Inspiring examples

Service to the community as part of university mission

A growing number of universities across Canada include “service to the community” in their mission. They have developed infrastructures dedicated to partnerships between researchers and civil society.

Civic universities

Several universities in the EU are currently adopting slightly different approaches in order to turn into a ‘civic university’. The basic idea is to make teaching, research, and efforts at helping tackle societal challenges mission areas of equal value. The [IRISH NATIONAL STRATEGY FOR HIGHER EDUCATION](#) stipulates that engagement with communities and regions develops more firmly as a core element of the mission of higher education in Ireland.

Third sector organizations can contribute to legitimacy-building by launching and joining initiatives for awards in good practice or innovative methods.

Inspiring examples

Award for RRI

The European Foundations Award for RRI (€20,000) is awarded to research projects that “incorporate innovative methods to align research with the needs of society” and “contribute responsibly to the development of a smart, inclusive and sustainable society”. The award is a joint initiative of the King Baudouin Foundation (Belgium), la Caixa Foundation (Spain), Fondazione Cariplo (Italy), Lundbeck Foundation (Denmark), the Robert Bosch Stiftung (Germany), and the European Foundation Centre Research Forum (you can find more information [HERE](#)).

4 ENGAGING SOCIETY FOR RRI: A MULTI-ACTOR AND LONG-TERM PROJECT

The tables below provide an overview of the policy and practice options to reduce barriers to engagement, structured according to actors and timescales. Giving more weight to citizens and third sector actors in publicly-funded research and research and innovation policy in the EU requires that

- Different types of actors (further) develop policies and practices to create supportive conditions for engagement; main groups of actors include policy makers and governments, research funding organizations, research organizations and other engagement performing organizations, and also third sector actors are important actors in reducing barriers
- The policies also make changes happen in wider structures, for instance in the ways the scientific community organizes and perceives itself
- All actors understand that engaging society for RRI is not a short-term initiative but a long-term project that requires short-term, as well as medium- and long-term actions.

Policy strategies to promote engagement of all sections of society with research and research and innovation policy need to include the development of favourable framework conditions at different levels including organizational structures (for instance, of research organizations or funding organizations) and system structures (for instance, of the science system or educational systems). This multi-level support is essential for ensuring that demands for engagement of citizens, third sector actors and other societal actors do not lead to a practice of engagement that is simply a box-ticking and buzz-word exercise instead of meaningful involvement.

There is much to gain from wider societal engagement. In view of worrisome anti-scientific tendencies, societal engagement should be promoted as part of the effort to enhance the resilience of civil society to fake news and defamation of science.

POLICY AND PRACTICE OPTIONS TO LOWER/OVERCOME BARRIERS TO ENGAGEMENT: WHO CAN DO WHAT?				
Barrier	Policy makers and governmental agencies	Research funding organizations, research councils	Universities, public and private research organizations	Third sector actors
Lack of relevance	Including citizens and third sector actors in agenda setting processes Providing funding programmes based around societal challenges or needs Providing open calls for research Opening up advisory boards to third sector organizations	Providing research calls for engagement of citizens and third sector actors in shaping local/regional environments Opening up advisory boards to third sector organizations	Establishing or using processes and structures to connect with society on a more continuous basis Employing scenarios and use cases for engagement about new technologies and research areas Assuring openness of outcomes in engagement processes Being transparent about how engagement is connected with the realities of citizens and third sector actors	
Lack of impact	Providing funding for research-based engagement processes the results of which directly feed into policy processes Providing training and support for public authorities in regard to societal engagement Establishing transnational infrastructures for exchanges on good impact practices	Including the requirement to combine online and offline approaches in calls for research involving societal engagement Providing national-level support in regard to good practice in impact Funding research on the impact of the engagement of citizens and third sector actors	Being transparent about expected impacts during the recruitment phase (e.g. co-shaping policies or prompting dialogue and deliberation in civil society)	
Lack of trust and critical views of others	Committing to transparency on how future policy decisions relate to engagement results Supporting research organizations in regard to engagement Providing funding opportunities for informal	Funding support staff to sustain engagement between research organizations and third sector actors, citizens and other research partners	Providing full transparency of the engagement process Using facilitators Offering training for researchers Providing opportunities for	Raising awareness and taking advantage of opportunities for informal encounters and networking

	<p>encounters and networking among scientists, third sector actors, and other relevant actors</p> <p>Funding for citizen science</p>	<p>during funded research projects</p>	<p>informal encounters and networking among researchers, citizens, third sector actors, and other relevant actors</p>	
<p>Lack of knowledge and skills</p>	<p>Providing national-level support on engagement (also) for third sector actors</p> <p>Opening up advisory boards to third sector organizations</p> <p>Promoting scientific literacy and strengthening science journalism</p> <p>Embedding engagement more widely in the education system</p>	<p>Funding of capacity-building for third sector organizations</p> <p>Funding of research into mechanisms of inclusion and exclusion in dialogues</p>	<p>Combining dialogue and information in engagement processes</p> <p>Using attractive stimuli to support dialogue</p> <p>Strengthening of science journalism</p>	<p>Raising awareness and taking advantage of capacity-building opportunities</p>
<p>Lack of time and financial resources</p>	<p>Recognizing third sector organizations as eligible actors in research</p> <p>Considering and developing new models of compensating engagement efforts</p>	<p>Funding of co-design and consortium-building for collaborative research projects</p> <p>Recognizing financial compensation for the efforts of citizens and third sector actors in engagement processes as eligible costs</p>	<p>Working with citizens in their 'natural habitats' (e.g. targeting schools, or contacting people in the streets)</p>	<p>Pooling of resources among third sector actors</p> <p>Adapting the mission of third sector organizations (include engagement in research/research and innovation policy)</p>
<p>Lack of legitimacy</p>	<p>Committing to societal engagement through national strategies and/or guidelines</p> <p>Providing awards for outstanding engagement projects and policies</p> <p>Encouraging research organizations to (visibly) extend their mandate through societal engagement</p> <p>Encouraging the adaptation of how scientific reputation is measured</p>	<p>Joining initiatives for awards in good practice or innovative methods</p> <p>Providing research calls for multi-actor, multi-level engagement processes</p>	<p>Acknowledging the efforts of citizens and third sector actors in research-related engagement processes</p> <p>Providing organizational reward and recognition for engagement with society</p> <p>Inscribing service to the community and/or engagement into the organization's mandate</p>	<p>Launching and joining initiatives for awards in good practice or innovative methods</p>

TIMESCALES OF POLICY AND PRACTICE OPTIONS TO LOWER/OVERCOME BARRIERS TO ENGAGEMENT ⁴		
Short-term	Medium-term	Long-term
<p>Fully transparent engagement processes, beginning with the recruitment phase, through clearly defining:</p> <ul style="list-style-type: none"> • How the process links with the realities of citizens and third sector actors • Roles and responsibilities of all actors involved • Expected impacts <p>Designing engagement processes to take into account scarce resources and gaps in knowledge and understanding</p> <ul style="list-style-type: none"> • Combining dialogue and information in engagement processes • Employing scenarios and use cases for engagement about new technologies and research areas • Using attractive stimuli to support dialogue • Working with citizens in their 'natural habitats' (e.g. schools, streets) • Pooling of resources among third sector actors <p>Accounting for diversity of actors and views in the process design</p> <ul style="list-style-type: none"> • Assuring openness of outcomes in engagement processes • Using facilitators <p>(New) funding policies</p> <p>Recognizing financial compensation for the efforts of citizens and third sector actors in engagement processes as eligible costs</p> <p>Building a culture of engagement</p> <p>Acknowledging the efforts of citizens and thirds sector actors in research-related engagement processes</p>	<p>(New) research and funding policies</p> <p>Opening up programme advisory committees and boards to third sector organizations</p> <p>(New) funding policies</p> <ul style="list-style-type: none"> • Recognizing third sector organizations as eligible actors in research • Funding of co-design and consortium-building for collaborative research projects • Funding of capacity-building for third sector actors • Funding of opportunities for informal encounters and networking among various actors • Funding support staff to sustain engagement between research organizations and third sector actors, citizens and other relevant actors <p>(New) funding programmes and tools</p> <ul style="list-style-type: none"> • Funding programmes for research that engages citizens and third sector actors in shaping local/regional environments • Funding based around societal challenges or needs • Funding programmes for research that includes multi-actor, multi-level engagement processes • Funding programmes for research-based engagement processes the results of which directly feed into policy processes • Open calls for research <p>Funding of (new) research</p> <ul style="list-style-type: none"> • Funding of research on impact of societal engagement processes • Funding of research into 	<p>(New) structures in research organizations</p> <ul style="list-style-type: none"> • Making societal engagement an integral part of research organizations • Establishing engagement competence and support units within research organizations <p>Changes in the third sector</p> <p>Including engagement in research/research and innovation policy in the mission of third sector organizations</p> <p>Changes in the educational systems</p> <ul style="list-style-type: none"> • Promoting scientific literacy and strengthening of science journalism • Embedding engagement more widely in the education systems <p>Developing a culture for engagement</p> <ul style="list-style-type: none"> • Committing to societal engagement in research-related activities through national strategies and/or engagement guidelines • Adapting the scientific reputation system • Providing organizational reward and recognition for engagement with society in research organizations • Considering and developing new models for compensating engagement efforts

⁴ „New“ is bracketed in the table because it depends on the respective context (countries, states, EU level or member state level), whether these options are really new or already existent or emerging.

	<p>mechanisms of exclusion and inclusion in dialogues</p> <ul style="list-style-type: none">• Funding of citizen science <p>(New) training and support Providing national-level support on engagement and achieving impact</p> <p>(New) infrastructure and networks</p> <ul style="list-style-type: none">• Providing opportunities for informal encounters and networking among researchers, citizens, third sector actors and other relevant actors• Establishing transnational infrastructures for exchanges on good practice in impact <p>Building a culture of engagement Providing awards for outstanding engagement projects and policies</p>	
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SOURCES

This is a list of the main sources that were used for producing this document – in addition to the PROSO research results (for these please see the point “Our information base” above):

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